E-Z DRAW 3.3

After booting E-Z DRAW you will be presented with our logo. Press any key to clear the screen and enter draw mode.

The crosshair in the middle of the screen is the "cursor". Think of it as a paintbrush that remembers where it has been.

The cursor is controlled by the usual editng keys I,J,K and M (up, left, right and down respectively). The distance moved each time a direction key is pressed is determined by the numerical keys 1 through 9. Press the "9" key and then use the direction keys to move the cursor around. Try changing the distance to move with the number keys. You'll also notice that if you run the cursor off the screen it will reappear on the opposite side of the screen. This is simply a shortcut method to cover the distance quicker. The ability to jump exact distances makes setting up grids or charts very easy.

Now let's find out where we are. Move the cursor to the center of the screen and then press the "F" key. This is the toggle key for FULL screen graphics or MIXED text and graphics. You may have to press the key twice the first time it is used. Thereafter pressing "F" will change from FULL screen to MIXED text and graphics and back again. The advantage to the mixed text and graphics display is the ability to see the coordinates, present color and other messages at the bottom of the screen while simultaneously creating images on the graphics screen.

The numbers and letters at the bottom all have very important defintions. "X" and "Y" are the present

locations of the cursor on the grid of 192 by 280 (0-191 and 0-279). This is the standard Apple resolution. The "X0" and "Y0" coordinates indicate the position of the "last point set". "Points" are coordinates which you give to tell E-Z DRAW where on the screen to perform the next command. Press the space bar to set a point and watch the X0,Y0 values change. As you move the cursor away from the point you set the X,Y values will change but X0,Y0 remain the same (at least until another point is set).

RECTANGLES:

As an example of setting a point, let's draw a simple rectangle. Move the cursor to the place on the screen where you would like the upper left corner of the rectangle to be. Now press the space bar to set the point for that corner. Move the cursor to where you would like the lower right corner of your rectangle to be and press the "R" key to draw the rectangle.

(A short digression... we've tried to make the commands match the keys whenever possible such as "R" for rectangle.)

You should now have a white outline of a rectangle on the screen. Why white? Because white is the default color established when the program first runs. You'll notice the color shown at the bottom of the page is whitel. Since we did not change the color the rectangle was drawn in white. More about colors later.

SOLID SHAPES:

Now hold the "CONTROL" key down and press the "R" key. The CONTROL key when used in conjunction with the commands for geometric shapes draws a solid shape in the present color rather than an outline. Other

geometric shapes possible include ellipses, circles, parallelograms, triangles and, of course, lines and dots.

DOTS, LINES:

Dots are the easiest, just press the space bar and a dot will appear on the screen. Press the space bar again and the dot will be erased. To draw a line set a point where you would like one end, move the cursor to where you would like the other end and press the "RETURN" key. To draw a continuous line which follows the cursor as you move it press the "/" key (the "/" was picked because of its resemblance to a line). To cancel the line drawing press the period "." key

PARALLELOGRAMS:

Parallelograms require the setting of two points. Press the space bar to set the first point at one of the corners, move to the second corner and press the SPACE BAR again to set a second point and lastly move to a third corner and press the "P" key. Note: E-Z DRAW remembers the last two points set even though only X0,Y0 is shown on the bottom of the screen. After defining the first three corners, E-Z DRAW will figure out where the fourth one goes and finish the parallelogram for you.

TRIANGLES:

Triangles require all three corners defined.

CIRCLES:

Circles require the use of the "O" key. Define the center of the circle with a point and then move to the outside of the circle and press "O".

ELLIPSES:

Ellipses require setting two center points and then moving to the outside and pressing "E". Try experimenting with this one.

Don't forget, pressing the CONTROL key down when pressing a shape command key (such as R for rectangle) will produce a solid shape.

ERASING:

If you have been playing with the commands as you've been reading you'll probably want to erase the screen and start over. This is accomplished by picking the color for the background and then invoking the background command. "CONTROL B" is the background command and it sets the entire background to the present color. Since white is the present color try a ^B and press "Y" in response to the question "Are you sure?". The screen should now be all white. Note: you need to set the background prior to drawing anything else.

Now let's go back to a black background, but first we need to discuss how to pick colors.

CHOOSING COLORS:

Press "^C" (remember CONTROL C). This will not

interrupt the program. After pressing CONTROL C, a number needs to follow it. The numbers 0 through 7 choose the colors. Try picking "0" and then use the background (^B) command to erase the screen to black.

Note when you press "/" and move the cursor the line drawn is in the present color. If the background is black, the color set to black and you press "/" you will be drawing black on black. This can be useful for selective erasing. Selective erasing can also be accomplished by drawing one of the geometric shapes over the area you wish to erase.

The Apple has two versions of black, two versions of white plus orange, violet, blue and green. Further, dots placed in even columns will be violet or blue and dots in odd columns will be green or orange. Certain colors (like red and green) will not work well together. Try experimenting with color combinations and you'll quickly learn what mixes and what doesn't.

A quick review - we've covered commands to draw various geometric shapes, move the cursor and draw lines, set the background and erase the screen or parts of it and how to choose colors. Play with these commands for a while and once you are familiar with them we'll go on to more advanced commands.

TEXT:

Welcome back. Let's discuss placing TEXT on the screen using the HIGHER TEXT character generator which is part of the E-Z DRAW program. HIGHER TEXT was written by Ron and Darrel Aldrich and is simply the best character generator written. Synergistic Software distributes HIGHER TEXT and we strongly recommend the use of it as a companion product to E-Z DRAW.

Text mode is entered by pressing the "@" key. The crosshair cursor will be replaced by a solid rectangle. Typing will start at the cursor position. To move the cursor without typing onto the screen press the "ESC" key and then use the usual direction control keys I,J,K and M until you get to the place where you wish to type. Try typing a bit. Now press "@" again to leave text mode. The "@" key is the text toggle. While in the text mode you have a number of options. The first option is to use the small fonts or the large fonts.

While using the small fonts (type !R for regular font) you have the options of wide letters (!W), tall letters (!T), bold face letters (!Y), upper case (!A), lower case (!S), expanded letters (!E) and sound (!V).

SOUND:

Actually the sound toggle works while in draw mode or text mode and allows each key to sound more like a typewriter for better feedback from the keyboard. "^Q" invokes The large font mode which generates characters from a 14 by 16 grid and produces more sophisticated, albeit larger fonts. The fonts included on the disk with E-Z DRAW are identified as large or small fonts by the suffix ".F" for large fonts and ".SF" for small fonts. A table of the fonts is included in the appendix with their associated names. These fonts were developed by Jerry Jewell and Eric Knopp and also include the fonts from the original Higher Text diskette as developed by Ron and Darrel Aldrich.

TEXT COLORS:

Colors for the letters are a bit different than those used for drawing. Wide, expanded and large font

characters can be generated in the usual six Apple colors. In addition, the expanded characters can be produced in the additional colors yellow, blue violet, pink, and aqua.
A chart of the colors and their associated numbers is included in the Appendix.

The command to choose the color is the same as in Draw mode (^C) except some of the numbers differ. Be sure to check the Appendix.

HIGHER TEXT can display a background behind printed text in several different ways; the three general ways are:

1) To create a background of one solid color behind the printed text

2) To use the existing contents of the screen for the background reference

3) Or to use page 2 of graphics for the background reference.

When text is mixed with a background, a logical function of the text and the background must be performed. The logical functions supported are "OR", "EXCLUSIVE OR", and "AND". Solid color backgrounds are selected by a "^B" followed by a "0". A background may already be on the screen at the time you wish to be printing (probably not a solid color) and it may be desirable to mix the text with the background rather than printing a solid color behind the text. This is done by entering a "^B" followed by a 1,2 or 3 (see the table in the Appendix) each having its own logical function OR, AND and EOR respectively. It is also possible to prevent destruction of the background by transfering it to the second page and bringing it back

to page one as the text is printed (discussed later) Pressing "^B" followed by 5,6 or 7 performs the functions OR, AND and EOR respectively against the second page.

The fonts on the disk do not all include lower case. When you shift to lower case and get garbage instead of letters it's time to go back to the appendix and make sure the font you are using has lower case. Also, loading a large font may wipe out the small font last used and vice versa. No problem, just reload the font you want. Which brings us to the input/output directions....

INPUT/OUTPUT COMMANDS:

The "L" key will bring up the catalog and ask for your choice from three options:

LOAD P)ICTURE, F)ONT OR I)MAGE.

A PICTURE is a binary file saved from the first page of graphics from address 8192 to address 16384 (decimal). This can be any normal bsave of the hires page.

A FONT is a style of lettering chosen from the available fonts on the E-Z DRAW diskette or from your own collection.

An IMAGE is a portion of the screen created using the Save I)mage option discussed below. The image will be loaded with its upper left corner at the current cursor position.

Saving I)mages or P)ictures is accomplished by pressing the "S" key and picking the appropriate option. When a picture is saved the entire 8,192 bytes of page one is saved under the name you give it. We suggest using the ".PIC" suffix to distinguish pictures from images and fonts.

IMAGES are portions of the screen saved in rectangular blocks. This allows you to save only the portion of the screen which is important to you and saves disk space. It also allows you to mix portions of pictures together and/or use the same image over and over in different pictures without recreating the image each time. To save a portion of the screen just define a rectangle by setting a point and moving the cursor to the opposite corner. Press "S" for Save and then press "I" in response to the question "P)ICTURE OR I)MAGE".

Note: images can not be used in other programs by "BLOADing" them as you would a picture. The images are used only to help combine portions of pictures together while in the E-Z DRAW program

Changing drives is accomplished by pressing "Shift 1" for drive one and "Shift 2" for drive 2.

MOVING portions of the picture around on the screen is accomplished by invoking the "MOVE" command after defining the rectangular area you wish to move. Set a point at one corner of the rectangular area you wish to move. Then move to the opposite corner and press "SHIFT M". The cursor will disappear and you will now be able to move the entire rectangle in any direction using the usual direction control keys. If at any time you wish to start the move over just press the "ESC" key. After the move is Complete press the "C" key and you will be returned to draw mode. Note: if the area you wish to move is less than one line high and/or less than 8 dots wide the "SHIFT M" command will be ignored. Now on to even more powerful commands:

Press "^" (shift n) and you will be presented with a number of choices:

A) mirror image
B) upside down

C) slant right
D) slant left
E) compress height
F) expand height
G) compress width
H) expand width
I) rotate 90 degrees
J) save page one on page 2
K) restore page one from page two

All these commands require you to define the rectangular area to operate on just as you would to define a rectangle. They all use page 2 as a buffer and if you do not like the results you may return to this menu and pick option "K" to restore the picture.

The option to rotate ninety degrees requires first that you set a point where you want the new upper left corner to be prior to defining the area to rotate. The other choices leave the upper left where it is.

Note: Saving your work as you go, either on disk or on the second page is highly recommended. It is pretty frustrating to spend an hour perfecting a complex design only to find you pressed the wrong key and drew over your design.

SCALING AND DISTANCE:

Press "C" and you will be presented with a message showing the present distance from X,Y to X0,Y0 based on the existing scale (default = X 0>279 and Y 0>191). To set your own scale type in the number you wish the distance to be and press the "RETURN" key. To return to the default values just press "C" and then "RETURN".

For determining distance between X,Y and X0,Y0 just press "D" and the distance will be calculated and

displayed based on the existing scale.

PRINTER COMMANDS:

E-Z DRAW includes printer commands for dumping the page 1 display directly to a Trendcom printer with the AIIG interface or a Silentype printer. Press the "ESC" key to invoke the printer menu. Printing can be aborted on the Trendcom by pressing the "ESC" key again. The printer is assumed to be in slot 1.

* OR CONTROL C FOR SILENTYPE

Using pictures developed in E-Z DRAW in your own programs is really pretty simple. Your program needs to set LOMEM above the first page of graphics (decimal 16384) and then BLOAD the picture. Following is a sample listing of a program which will work in either Integer basic or Applesoft basic.

```
10 D$="": REM CONTROL D IN QUOTES
20 PRINT D$;"BLOAD PICTURE": REM USE YOUR OWN PICTURE
NAME
30 POKE-16304,0: REM TURN ON GRAPHICS
40 POKE-16297,0: REM SELECT HI-RES
50 POKE-16302,0: REM FULL SCREEN
60 REM REST OF PROGRAM GOES HERE
```

SUMMARY

The main mode in E-Z DRAW is the DRAW mode. Various sub-modes such as LOAD, SAVE, MOVE, PRINT, TEXT, etc. are accessed from the draw mode. All the sub-modes return to the DRAW mode when finished and the sub-modes cannot access each other.

APPENDIX

DRAW MODE COMMANDS:

```
KEY:.....RESULT
^B.....BACKGROUND- SETS BACKGROUND
.....TO CURRENT COLOR.
C.....CALIBRATION- SETS SCALE TO
.....VALUES YOU SET.<RETURN>
^C.....CHOOSE COLOR FROM 1 TO 7
D.....DISTANCE- CALCULATE DISTANCE
.....FROM X0,Y0 TO X,Y.
E.OR ^E...ELLIPSE- DRAWS ELLIPSE IN
.....CURRENT COLOR.^E IS SOLID
.....ELLIPSE.
F.....FULL OR MIXED TEXT/GRAPHICS.
O.....CIRCLE DRAW IN CURRENT COLOR
.....WITH CENTER AT X0,Y0 AND
.....AND RADIUS AT X,Y.  ^O IS
.....SOLID CIRCLE.
P OR ^P...PARALLELOGRAM- WITH CORNERS
.....AT FIRST POINT X0,Y0 AND
.....X,Y IN CURRENT COLOR.
.....^P IS SOLID PARALLELOGRAM.
R OR ^R...RECTANGLE IN CURRENT COLOR
.....WITH CORNERS AT X,Y AND
.....X0,Y0.  ^R IS SOLID RECTANGLE
S.....SAVE- EITHER PICTURE OR
.....PARTIAL IMAGE.
T OR ^T...TRIANGLE- DRAW IN CURRENT
.....COLOR WITH CORNERS AT FIRST
.....POINT AND X0,Y0 AND X,Y
.....^T IS SOLID TRIANGLE.
^V.....IS SOUND SWITCH FOR KEYBOARD
.....CLICK.
@.....TEXT MODE TOGGLE.
```

(PERIOD).. POINT DRAW MODE.CURSOR MOVES
/.....LINE DRAW MODE. CURSOR DRAWS
.....LINE IN CURRENT COLOR.
SHIFT1&2..(^&")CHANGE ACTIVE DRIVE FOR
.....LOAD OR SAVE.
0 THRU 9..SET DISTANCE FOR CURSOR
.....MOVEMENT
SHIFT N...INVOKE MENU WITH OPTIONS TO
.....MIRROR, UPSIDE DOWN, ETC.
SHIFT M...INVOKE MOVE COMMAND
ESC.....INVOKE PRINTER OPTION MENU
I,J,K &M..CURSOR MOVEMENT KEYS
RETURN....DRAW LINE FROM X,Y TO X0,Y0

CHARACTER MODE COMMANDS:

KEY:.....RESULT:

^R.....SET REGULAR TEXT MODE.
^W.....SET WIDE TEXT MODE.
^T.....SET TALL TEXT MODE.
^E.....SET EXPANDED TEXT MODE.
^Q.....SET LARGE FONT MODE.
^Y.....SET BOLD FACE MODE.
^Z.....CLEAR BOLD FACE MODE.
^S.....LOWER CASE SHIFT LOCK.
^A.....UPPER CASE SHIFT LOCK.
^C.....SET COLOR OF LETTERS.
^B.....SET BACKGROUND MODE OR
.....COLOR.
^V.....KEY CLICK TOGGLE.

ESC.....CURSOR CONTROL WHEN FOLLOWED
.....BY I,J,K OR M

COLOR COMMANDS:

^C FOLLOWED BY:
0=WHITE
1=GREEN
2=VIOLET
3=ORANGE
4=BLUE
5=YELLOW*
6=BLUE VIOLET*
7=PINK*
8=AQUA*
9=BLACK

* ONLY AVAILABLE IN EXPANDED MODE

BACKGROUND COMMANDS AND BACKGROUND REFERENCE:

^B FOLLOWED BY:
0=EOR WITH CURRENT COLOR PAGE1
1=OR WITH PAGE1
2=AND WITH PAGE1
3=EOR WITH PAGE1
4=EOR WITH CURRENT COLOR PAGE2
5=OR WITH PAGE 2.
6=AND WITH PAGE 2.
7=EOR WITH PAGE 2.

NOTE:^B FOLLOWED BY A 5,6 OR 7 WILL TRANSFER THE PAGE 2 TO PAGE 1. RETRIEVAL IS ACCOMPLISHED BY TYPING OVER THE AREA YOU WISH TO RETRIEVE

BACKGROUND VS DESIRED COLOR:

MOST USEFUL COMBINATIONS ONLY

MIXTURE DESIRED:	TEXT COLOR	BACKGROUND
WHITE ON BLACK	WHITE	BLACK
WHITE ON GREEN	VIOLET	GREEN
WHITE ON VIOLET	GREEN	VIOLET
WHITE ON ORANGE	BLUE	ORANGE
WHITE ON BLUE	ORANGE	BLUE
BLACK ON WHITE	WHITE	WHITE
BLACK ON GREEN	GREEN	GREEN
BLACK ON VIOLET	VIOLET	VIOLET
BLACK ON ORANGE	ORANGE	ORANGE
BLACK ON BLUE	BLUE	BLUE
GREEN ON WHITE	VIOLET	WHITE
VIOLET ON WHITE	GREEN	WHITE
ORANGE ON WHITE	BLUE	WHITE
BLUE ON WHITE	ORANGE	WHITE
GREEN ON BLACK	GREEN	BLACK
VIOLET ON BLACK	VIOLET	BLACK
ORANGE ON BLACK	ORANGE	BLACK
BLUE ON BLACK	BLUE	BLACK

FONT TABLE

ASTRA . F